

AMENDMENTS TO THE CLAIMS

Please cancel claims 15-17 without prejudice or disclaimer of the subject matter set forth therein.

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (previously presented) A hydrotreating catalyst comprising a hydrogenation active metal component supported on a refractory porous carrier, wherein a median pore diameter determined by the nitrogen adsorption method is 8 to 20 nm, a pore volume determined by the nitrogen adsorption method is 0.56 - 1.0 cm<sup>3</sup>/g, and a pore volume of pores having a pore diameter of 50 nm or larger determined by the mercury intrusion porosimetry method is 0.32 - 1.1 cm<sup>3</sup>/g, wherein the pore volume of all pores determined by the mercury intrusion porosimetry method is 0.87 cm<sup>3</sup>/g or greater.

2. (canceled).

3. (currently amended) A hydrotreating catalyst according to claim 1, wherein the catalyst is used in demetallizing or deasphalting of heavy oil.

4. (previously presented) A hydrorefining catalyst according to claim 1, wherein a pore volume of pores with a pore diameter of not less than 1,000 nm measured by the mercury intrusion porosimetry method is not more than 0.2 cm<sup>3</sup>/g.

5. (currently amended) A hydrorefining catalyst according to claim 1, wherein the catalyst has a bulk density of ~~wherein bulk density is~~ 0.52 g/cm<sup>3</sup> or less.

6. (previously presented) A hydrorefining catalyst according to claim 1, wherein the catalyst comprises 2 to 6 wt% molybdenum and 0.5 to 2 wt% nickel or cobalt as the hydrogenation active metal component.

7. (currently amended) A hydrorefining catalyst according to claim 1, wherein the catalyst comprises 0.5 to 1.5 wt% phosphorus ~~phosphoreous~~ or boron.

8. (original) A hydrorefining catalyst according to Claim 1, wherein the catalyst is molded by extrusion molding.

9. (currently amended) A <sup>A</sup>~~The~~ hydrorefining catalyst according to claim 1, wherein <sup>the</sup> ~~said~~ <sup>^</sup> catalyst exhibits an effective amount of a

metal deposition that is 70 g or more per 100 g of a fresh catalyst.

10. (original) A hydrorefining catalyst according to claim 1, wherein the catalyst is used for demetallization treatment of heavy oil containing 45 ppm by weight or more of nickel or vanadium with respect to metal weight.

11. (original) A hydrorefining catalyst according to claim 1, wherein the catalyst is used for deasphalting treatment of heavy oil containing 3% or more asphaltene component.

12. (currently amended) A method of producing a hydrorefining catalyst comprising a hydrogenation active metal, comprising the steps of:

kneading a porous starting powder whose main component is crystalline  $\gamma$ -alumina wherein the crystalline  $\gamma$ -alumina in the porous starting powder is present at 90 weight % or more and wherein the crystalline  $\gamma$ -alumina has a pore volume of 0.75 cm<sup>3</sup>/g or greater and a mean particle diameter of 10 to 200  $\mu$ m to prepare a kneaded product;

molding and calcining said kneaded product; and

supporting the active metal component on the kneaded product or on the kneaded product after calcining.

13. (currently amended) A method of producing a hydrorefining catalyst according to claim 12, wherein the crystalline  $\gamma$ -alumina is crystalline  $\gamma$ -alumina that has been obtained by calcining boehmite powder.

14. (original) A method of producing a hydrorefining catalyst according to claim 13, wherein the molding is performed by extrusion molding.

15-17. (canceled).